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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/381,631	03/01/2000	PIERRE JEANVOINE	1247-0822-0V	4206

7590

01/31/2002

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EXAMINER

VINCENT, SEAN E

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 01/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/381,631	Applicant(s) JEANVOINE ET AL.	
	Examiner Sean E Vincent	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-99 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 38-65, 67, 70, 72-94, 98 and 99 is/are rejected.
- 7) ☒ Claim(s) 66, 68, 69, 71 and 95-97 is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- | | |
|--|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 20) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 38, 39, 41-47, 49-52, 57-63, 76, 77, 84, 87, 94, 98 and 99 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Koz'min et al (Science in the Glass Industry article). The features of applicant's claims can be found throughout the article.
3. Claims 73-75 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mason et al (US 5643350). The features of applicant's claims can be found in col. 6, lines 6-17, col 8, lines 34-45, the figures and the abstract.
4. Claims 38-40, 42-45 and 78 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Floyd et al (US 5615626). The features of applicant's claims can be found in the abstract, figures, col. 2, line 26 to col. 4, line 10; col. 5, line 34 to col. 6, line 60 and the example.

Claim Rejections - 35 USC § 103

5. Claim 48, 79-83, 85, 86, 88 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koz'min et al.

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6. Koz'min et al does not explicitly state bubble diameters of at least 100μ . It would have been obvious to a person of ordinary skill in the art at the time the invention was made to expect the molten glass of Koz'min et al to have bubbles of 100μ before refining because it would have been consistent with Koz'min et al's bubble concentration of $150-900/\text{cm}^3$.

7. Likewise, Koz'min does not explicitly teach the exact dimensions, temperatures or sizes claimed. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the claimed details because the specific process conditions recited are not critical but are merely optimal for the particular material being treated and they would be within the skill of the art to determine, *In re Aller et al.*, 105 U.S.P.Q. 233, 42 C.C.P.A. 824. It is the position of the Examiner that it would not require undue experimentation by a person of ordinary skill in the art at the time the invention was made to find these conditions beneficial.

8. Claims 53-55, 64, 65, 67, 70, 90 and 91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koz'min et al in view of St. John (US 3938981).

9. Koz'min et al does not teach refining in a compartment with inclined, mutually parallel walls spaced for thin film layer formation. St. John teaches diverting devices between which glass is forced (see col. 3, line 28 to col. 5, line 20). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the diverting devices of St. John into the arrangement of Koz'min et al because St. John teaches that it would more efficiently remove bubbles from molten glass.

10. Koz'min et al and St. John do not teach rectangular section longitudinally partitioned tubes. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use such tubes instead of the conical diverters of St. John because

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changes in shape have been held to be obvious in the absence of persuasive evidence that the particular configuration is significant.

11. Koz'min et al does not teach a rotating device for centrifugal refining. St. John teaches a cylinder lined with refractory material mounted for rotation around its vertical axis, the cylinder housing the above discussed diverters (see col. 3, lines 11-27). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to add the rotating cylinder of St. John to the arrangement of Koz'min et al because St. John teaches that the centrifugal force further improved bubble removal.

12. St. John does not teach a particular thin layer thickness. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make the thickness of Koz'min et al and St. John less than 10cm because the specific process conditions recited are not critical but are merely optimal for the particular material being treated and they would be within the skill of the art to determine, *In re Aller et al.*, 105 U.S.P.Q. 233, 42 C.C.P.A. 824. It is the position of the Examiner that it would not require undue experimentation by a person of ordinary skill in the art at the time the invention was made to find these conditions beneficial.

13. Claims 56, 72 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koz'min et al in view of Dolf et al (US 3260587).

14. Koz'min et al does not teach introducing raw material below the melt surface. Dolf et al teaches submerged combustion methods and apparatus including a spout with a lower end slightly below the normal liquid level of the glass in the furnace (see figures and col. 2, lines 1-12). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to introduce raw material below the liquid level of Koz'min et al because it would

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have prevented particulate batch from being blown upward by combustion gas escaping from the liquid surface, as suggested by Dolf et al.

15. Dolf et al does not teach two spouts. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a second spout in the arrangement of Dolf et al and Koz'min because it would have been mere duplication.

16. Dolf et al does not teach feed-screw means. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a feed-screw means because feed-screw means are commonplace in cullet or batch introduction means for glass furnaces.

Allowable Subject Matter

17. Claims 66, 68, 69, 71, 92 and 95-97 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or fairly suggest these apparatus features:

- a. Inclined, rectangular section tubular elements submerged in the melting chamber through which molten glass is forced as claimed.
- b. Partitions in a rotating device for centrifugal refining, said partitions defining the thickness of the thin layer between the partition and the cylindrical internal walls of the device as claimed.
- c. Means for trapping solid particles in the rotating device as claimed.

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d. Refining means in the melting chamber.

It would not have been obvious to incorporate the above features into the teachings of the prior art.

19. Applicant's arguments filed November 9, 2001 have been fully considered but they are not persuasive.

20. In response to the argument that Koz'min does not teach adding combustible materials, it is noted that the claims do not require combustible materials. Combustible materials are an optional ingredient selected from a group consisting of other ingredients including "batch materials", "cullet" and "verifiable materials". Furthermore, if applicant's claims did require the addition of combustible materials, the claims would be anticipated by newly cited Floyd et al.

Conclusion

21. The prior art made of record and not relied upon is cited to further show the state of the art.

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

23. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E Vincent whose telephone number is 703-305-3607. The examiner can normally be reached on M - F (8:30 - 6:00) Second Monday Off.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

26. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Sean E Vincent
Primary Examiner
Art Unit 1731

S Vincent
January 28, 2002